

## **SPACE COOPERATION**

### **Interface Region Imaging Spectrograph Mission**

**Arrangement Between the  
UNITED STATES OF AMERICA  
and NORWAY**

Signed at Washington and Oslo  
December 14, 2010 and January 10, 2011



NOTE BY THE DEPARTMENT OF STATE

Pursuant to Public Law 89—497, approved July 8, 1966  
(80 Stat. 271; 1 U.S.C. 113)—

“ . . . the Treaties and Other International Acts Series issued under the authority of the Secretary of State shall be competent evidence . . . of the treaties, international agreements other than treaties, and proclamations by the President of such treaties and international agreements other than treaties, as the case may be, therein contained, in all the courts of law and equity and of maritime jurisdiction, and in all the tribunals and public offices of the United States, and of the several States, without any further proof or authentication thereof.”

## **NORWAY**

### **Space Cooperation: Interface Region Imaging Spectrograph Mission**

*Arrangement signed at Washington and Oslo  
December 14, 2010 and January 10, 2011;  
Entered into force January 10, 2011.*

**IMPLEMENTING ARRANGEMENT  
BETWEEN  
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
OF THE UNITED STATES OF AMERICA  
AND  
THE NORWEGIAN SPACE CENTRE  
OF  
THE KINGDOM OF NORWAY  
ON THE  
INTERFACE REGION IMAGING SPECTROGRAPH (IRIS) MISSION**

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## **PREAMBLE**

The National Aeronautics and Space Administration of the United States of America (hereinafter referred to as “NASA”), and the Norwegian Space Centre of Norway (hereinafter referred to as “NSC”) (hereinafter collectively referred to as the “Implementing Agencies”):

Recognizing that NSC’s mission is to promote and guide space research and technology for scientific and technical purposes;

Recognizing that NASA’s mission is to pioneer the future in space exploration, scientific discovery, and aeronautics research;

Recalling the terms of the Agreement between the United States of America and the Kingdom of Norway for Cooperation in the Civil Uses of Outer Space signed on October 20, 2000, and November 14, 2001, which on October 23, 2006 was extended to November 2016 (hereinafter referred to as the “Framework Agreement”);

Have agreed as follows:

## **ARTICLE 1 PURPOSE OF COOPERATION**

The purpose of this Implementing Arrangement is to set forth the respective responsibilities of the Implementing Agencies and the terms and conditions under which they will cooperate in the ground station support of the NASA Interface Region Imaging Spectrograph (IRIS) mission.

## **ARTICLE 2 DESCRIPTION OF THE IRIS MISSION COLLABORATION**

NASA and NSC have agreed to collaborate on the IRIS mission. Specifically NASA and NSC will collaborate on IRIS observations, which will be collected through several ground stations around the globe, including one located at the Kongsberg Satellite Services - Norwegian Space Centre (KSAT-NSC) station in Svalbard, Norway. The objective of this activity is for NASA and NSC to use a solar telescope and spectrograph to explore the solar chromospheres. This is a crucial region for understanding energy transport into the solar wind and an archetype for stellar atmospheres. Recent discoveries have shown the chromosphere is significantly more dynamic and structured than previously thought. The IRIS mission will greatly extend the scientific output of existing heliophysics spacecraft that follow the effects of energy release processes from the Sun to Earth. The unique instrument capabilities, coupled with state of the art 3-D modeling, will explore this dynamic region in detail.

The collaboration includes analysis of the IRIS observations using 3-D numerical models from the Institute of Theoretical Astrophysics (ITA) at the University of Oslo, Norway. The ground station support from KSAT-NSC in Svalbard will be for 25 months following the launch of IRIS.

The ground station will support an adequate number of downlink and uplink passes to support operations and an average data rate on the order of 50 gigabytes (Gbytes) per day.

It is the intention of the Implementing Agencies to encourage and conduct joint science investigations, technology testing, and simulated mission operations to gain a better understanding of the energy transport into the solar wind and an archetype for stellar atmospheres and gain scientific, technological, and operational knowledge that would contribute to future missions.

## **ARTICLE 3 RESPONSIBILITIES**

### **3.1 NASA Responsibilities**

NASA shall use reasonable efforts to carry out the following responsibilities:

1. Design, build, launch, and operate the IRIS spacecraft;
2. Facilitate and support KSAT-NSC Svalbard ground station uplink and downlink activities, including pre-launch testing;
3. Facilitate access to mutually agreed-upon sites in the United States for NSC-sponsored personnel and NSC-owned or -sponsored scientific or technology equipment for the purpose of conducting science investigations;
4. Encourage and support joint NASA-NSC data downlink and uplink analysis activities in Norway and the United States;
5. Conduct all field activities in accordance with safety and environmental procedures established for that site by the cognizant Norwegian or American authorities;
6. Provide security for NSC-owned or -sponsored equipment at the mutually agreed-upon sites in the United States; and
7. Encourage joint educational and outreach activities involving teachers, students, media, and public outreach programs associated with the research.

### **3.2 NSC Responsibilities**

NSC shall use reasonable efforts to carry out the following responsibilities:

1. Provide ground station support from KSAT-NSC Svalbard, Norway, for an adequate number of uplink and downlink passes to support IRIS operations at an average data rate on the order of 50 Gbytes per day, including pre-launch testing, up to 25 months after launch.

This will not involve any transfer of funds between the Implementing Agencies. Any activity beyond the 25-month operation period will be subject to separate discussions;

2. Facilitate access to mutually agreed-upon sites in Norway for NASA-sponsored personnel and NASA-owned or -sponsored scientific or technology equipment for the purpose of conducting science investigations;
3. Encourage and support joint scientific analysis activities in Norway and the United States including analysis of the IRIS observations using 3-D numerical models from the ITA;
4. Conduct all field activities in accordance with safety and environmental procedures established for that site by the cognizant Norwegian or American authorities;
5. Provide security for NASA-owned or -sponsored equipment at the mutually agreed-upon sites in Norway; and
6. Encourage joint educational and outreach activities involving teachers, students, media, and public outreach programs associated with the field research.

#### **ARTICLE 4 POINTS OF CONTACT**

The NASA designated point of contact is:

Mr. George Albright  
IRIS Program Executive  
Science Mission Directorate  
NASA Headquarters  
Washington, DC 20546 USA  
Phone: +1-202-358-0356  
Fax: +1-202-358-3095  
E-mail: [george.albright@nasa.gov](mailto:george.albright@nasa.gov)

The NSC designated point of contact is:

Dr. Pål Brekke  
Norwegian Space Centre  
P.O. Box 113 Skoyen  
0212 Oslo, Norway  
Phone: +47 22511827  
Fax: +47 22511801  
E-mail: [paal.brekke@spacecentre.no](mailto:paal.brekke@spacecentre.no)



## **ARTICLE 5 LIABILITY**

1. Each Implementing Agency hereby waives any claim against the other Implementing Agency, employees of the other Implementing Agency, the other Implementing Agency's Related Entities (including but not limited to contractors and subcontractors at any tier, grantees, investigators, customers, users, and their contractors or subcontractors at any tier), or employees of the other Implementing Agency's Related Entities for any injury to, or death of, the waiving Implementing Agency's employees or the employees of its Related Entities, or for damage to, or loss of, the waiving Implementing Agency's property or the property of its Related Entities arising from or related to activities conducted under this Agreement, whether such injury, death, damage, or loss arises through negligence or otherwise, except in the case of willful misconduct.
2. Each Implementing Agency further agrees to extend this cross-waiver to its Related Entities by requiring them, by contract or otherwise, to waive all claims against the other Implementing Agency, Related Entities of the other Implementing Agency, and employees of the other Implementing Agency or of its Related Entities for injury, death, damage, or loss arising from or related to activities conducted under this Agreement. Additionally, each Implementing Agency shall require that its Related Entities extend this cross-waiver to their Related Entities by requiring them, by contract or otherwise, to waive all claims against the other Implementing Agency, Related Entities of the other Implementing Agency, and employees of the other Implementing Agency or of its Related Entities for injury, death, damage, or loss arising from or related to activities conducted under this Agreement.

## **ARTICLE 6 DATA POLICY**

The Implementing Agencies shall have access to and use of all data generated under this Implementing Arrangement. The scientific data generated under this Implementing Arrangement will be made available for public access as soon as practicable.

## **ARTICLE 7 INTELLECTUAL PROPERTY RIGHTS**

1. Nothing in this Implementing Arrangement shall be construed as granting, either expressly or by implication, to the other Implementing Agency any rights to, or interest in, any inventions or works of an Implementing Agency or its Related Entities made prior to the entry into force of, or outside the scope of, this Implementing Arrangement, including any patents (or similar forms of protection in any country) corresponding to such inventions or any copyrights corresponding to such works.

2. Any rights to, or interest in, any invention or work made in the performance of this Implementing Arrangement solely by one Implementing Agency or any of its Related Entities, including any patents (or similar forms of protection in any country) corresponding to such invention or any copyright corresponding to such work, shall be owned by such Implementing Agency or Related Entity. Allocation of rights to, or interest in, such invention or work between such Implementing Agency and its Related Entities shall be determined by applicable laws, rules, regulations, and contractual obligations.
3. It is not anticipated that there will be any joint inventions made in the performance of this Implementing Arrangement. Nevertheless, in the event that an invention is jointly made by the Implementing Agencies in the performance of this Implementing Arrangement, the Implementing Agencies shall, in good faith, consult and agree within 30 calendar days as to:
  - (a) the allocation of rights to, or interest in, such joint invention, including any patents (or similar forms of protection in any country) corresponding to such joint invention;
  - (b) the responsibilities, costs, and actions to be taken to establish and maintain patents (or similar forms of protection in any country) for each such joint invention; and
  - (c) the terms and conditions of any license or other rights to be exchanged between the Implementing Agencies or granted by one Implementing Agency to the other Implementing Agency.
4. For any jointly authored work by the Implementing Agencies, should the Implementing Agencies decide to register the copyright in such work, they shall, in good faith, consult and agree as to the responsibilities, costs, and actions to be taken to register copyrights and maintain copyright protection (in any country).
5. Subject to the provisions of Article 8 (Release of Results and Public Information) and Article 9 (Exchange of Goods and Technical Data) of this Implementing Arrangement, each Implementing Agency shall have an irrevocable royalty-free right to reproduce, prepare derivative works, distribute, and present publicly, and authorize others to do so on its behalf, any copyrighted work resulting from activities undertaken in the performance of this Implementing Arrangement for its own purposes, regardless of whether the work was created solely by, or on behalf of, the other Implementing Agency or jointly with the other Implementing Agency.

## **ARTICLE 8**

### **RELEASE OF RESULTS AND PUBLIC INFORMATION**

1. The Implementing Agencies retain the right to release public information regarding their own activities under this Implementing Arrangement. The Implementing Agencies shall coordinate with each other in advance concerning releasing to the public information that

relates to the other Implementing Agency's responsibilities or performance under this Implementing Arrangement.

2. The Implementing Agencies shall make the final results obtained from this mission available to the general scientific community through publication in appropriate journals or by presentations at scientific conferences as soon as possible and in a manner consistent with good scientific practices.
3. The Implementing Agencies acknowledge that the following data or information does not constitute public information and that such data or information shall not be included in any publication or presentation by an Implementing Agency under this Article without the other Implementing Agency's prior written permission:
  - (a) data furnished by the other Implementing Agency in accordance with Article 9 (Exchange of Goods and Technical Data) of this Implementing Arrangement that is export-controlled, classified, or proprietary; or
  - (b) information about an invention of the other Implementing Agency before an application for a patent (or similar form of protection in any country) corresponding to such invention has been filed covering the same, or a decision not to file has been made.

## **ARTICLE 9**

### **EXCHANGE OF GOODS AND TECHNICAL DATA**

Pursuant to Article 2 of the Framework Agreement, Article 6 (Exchange of Technical Data and Goods) of the Framework Agreement is not applicable to this Implementing Arrangement. Rather, the following sub-provisions of the Implementing Arrangement apply.

The Implementing Agencies are obligated to transfer only those technical data (including software) and goods necessary to fulfill their respective responsibilities under this Implementing Arrangement, in accordance with the following provisions, notwithstanding any other provisions of this Implementing Arrangement:

1. All activities under this Implementing Arrangement shall be carried out in accordance with the Implementing Agencies' national laws and regulations, including those laws and regulations pertaining to export control and the control of classified information.
2. The transfer of technical data for the purpose of discharging the Implementing Agencies' responsibilities with regard to interface, integration, and safety shall normally be made without restriction, except as required by paragraph 1 above.
3. All transfers of goods and proprietary or export-controlled technical data are subject to the following provisions:

- (a) In the event an Implementing Agency or its Related Entity (defined for the purpose of this Article as contractors, subcontractors, grantees, or cooperating entities, or any lower tier contractor, subcontractor, grantee, or cooperating entities of an Implementing Agency) finds it necessary to transfer such goods or data, for which protection is to be maintained, such goods shall be specifically identified and such data shall be marked.
  - (b) The identification for such goods and the marking on such data shall indicate that the goods and data shall be used by the receiving Implementing Agency and its Related Entities only for the purposes of fulfilling the receiving Implementing Agency's or Related Entities' responsibilities under this Implementing Arrangement, and that such goods and data shall not be disclosed or retransferred to any other entity without the prior written permission of the furnishing Implementing Agency or its Related Entity.
  - (c) The receiving Implementing Agency or Related Entity shall abide by the terms of the notice and protect any such goods and data from unauthorized use and disclosure.
  - (d) The Implementing Agencies to this Implementing Arrangement shall cause their Related Entities to be bound by the provisions of this Article through contractual mechanisms or equivalent measures.
4. All goods exchanged in the performance of this Implementing Arrangement shall be used by the receiving Implementing Agency or Related Entity exclusively for the purposes of the Implementing Arrangement. Upon completion of the activities under the Implementing Arrangement, the receiving Implementing Agency or Related Entity shall return or otherwise dispose of all goods and marked proprietary or export-controlled technical data provided under this Implementing Arrangement, as directed by the furnishing Implementing Agency or Related Entity.

## **ARTICLE 10**

### **RELATIONSHIP TO THE FRAMEWORK AGREEMENT**

This Implementing Arrangement, concluded pursuant to Article 2 of the Framework Agreement, incorporates by reference and is subject to the terms and conditions of the Framework Agreement, except as otherwise provided for in this Implementing Arrangement.

## **ARTICLE 11**

### **AMENDMENTS**

This Implementing Arrangement may be amended through mutual written agreement by the Implementing Agencies.

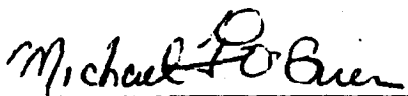
**ARTICLE 12  
ENTRY INTO FORCE AND DURATION**

This Implementing Arrangement shall enter into force on the last date of signature and shall remain in force for ten (10) years unless terminated by one Implementing Agency by providing at least ninety (90) days' advance written notice to the other Implementing Agency of its intent to terminate.

The obligations of the Implementing Agencies set forth in the provisions in Article 5 (Liability) and Article 7 (Intellectual Property), and Article 9 (Exchange of Goods and Technical Data) of this Implementing Arrangement shall continue to apply after the expiration or termination of this Implementing Arrangement.

**DONE** in two originals in the English language.


**FOR THE NATIONAL AERONAUTICS  
AND SPACE ADMINISTRATION:**

  
\_\_\_\_\_  
Michael F. O'Brien  
Associate Administrator  
for International and Interagency Relations

Dec 14, 2010  
\_\_\_\_\_  
Date

Washington, DC  
\_\_\_\_\_  
Place

**FOR THE NORWEGIAN SPACE  
CENTRE:**

  
\_\_\_\_\_  
Bo Andersen  
Director General

January 10, 2011  
\_\_\_\_\_  
Date

Oslo  
\_\_\_\_\_  
Place